



Idle-Free Technology Marine & Port Operations

Clean & Efficient Goods Movement Workshop ■ February 22, 2006



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Understanding The Past Reasons Why Idle Reduction Wasn't A Part Of Operations



- **Driver or operator habits.**
- **Traditionally Low Diesel Fuel Prices.**
- **Little concern for the consequences made to the environment.**
- **Little to No financial consequences unless under rare circumstances, except for:**
 - School Bus Districts
 - Urban & Residential Communities
 - Marina & Port Authorities



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Sign Of The Times. Sentiment, Regulation, and Incentives for 2006.

- New public and legislative sentiment is sweeping across North America to reconsider the damaging effects “across-the-board” idling is creating in municipal operations, loading & unloading docks, in-transit delivers, and “over the road & sea” transporting of goods.
- 21-States and Washington D.C. have Idling Regulations limiting time and levying fines for non-compliance.
- Funding, Grants and Rebate Programs are matching Idle-Reduction Manufacturers with end-users.





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The Cost Of Idling Is Impactful In The Air and Under The Hood

■ Emissions/Pollution

A year's worth of idling (2,000 hours) produces over 20 tons of GHGs.

■ Engine Wear & Tear

Additional Engine maintenance required due to idling results in cost from \$200-\$2000/yr

■ Wasted Fuel

1.2 billion gallons a year of fuel are consumed in the US by truck idling

■ Operating Cost

Studies show annual idling cost range from \$3000 to \$7000 per truck





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Minnesota embraces restricting Idling and establishes bold Regulations with penalties.

- **Minnesota, Minneapolis “NEW”**
0-minutes in residential areas between 10p – 6a.
FINES: \$700 maximum and/or 90-days imprisonment.
- **Minnesota, City of Owatonna**
15-minutes each 5-hrs in residential areas
FINES: \$1000 max. and/or 90-days imprisonment.
- **Minnesota, City of St. Cloud**
5-minutes, West St. Germain Street from 8th to 10th Avenue.
FINES: Not <\$200





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Idle-FREE Solutions for Preheating Engines and Providing Interior Comfort

■ Marine, Heavy-Duty Truck, Bus & Rail,
Off-Highway, Cargo, Military and Light
Duty Vehicles.



DBW 2010
45,000 Btu/h.
Coolant/Water
Preheat &
Compartment
Heating System.



Thermo 90 S
31,000 Btu/h.
Coolant/Water
Preheat &
Compartment
Heating System.



TSL 17
17,200 Btu/h.
Engine
Coolant
Preheating
System.



Air Top 3500
12,000 Btu/h.
Forced air
compartment
heating for up
to 10-hrs/gal.



Air Top 2000
7,000 Btu/h.
Forced air
compartment
heating for up to
20-hrs/gal.



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BlueHeat Provides No-Idle Solutions for Light-Duty Engine & Interior Preheating



- Mounts under the hood, gets power from the battery, and is activated by a programmable timer or heater-remote.
- Heater pump circulates and heater preheats engine coolant to 180 degrees.
- Blower fan activates, sending warm air to the interior.
- No scraping windshields.
- No-Idling for heat.
- No need for Plug-Ins.





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Heavy-Duty Vehicles Reduce Idling For Heat & Cooling With Climate Control Solutions

- EPA recognized Anti-Idling devices.
- Low amp draw and fuel consumption.
- Quiet operation.
- Reduces engine wear & tear from reduced cold starts.
- Incredibly quick Return-on-Investment.





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Heating Solutions That Add Versatility In Transporting Temperature Sensitive Cargo

- Provides In-Transit product protection.
- Maintains consistent transit and storage temperatures enabling mobile warehousing.
- Provides quick air distribution and quick heat recovery.
- Watertight connections and self-diagnostics capabilities.





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Marine Heating, Cooling & Ventilation Solutions Deliver Idle-Free Technology

- Preheating Engines and providing Interior heating for cabins or compartments.
- Application specific for vessels up to 100'.
- OEM partners worldwide.
- Dealer & Distributor network through North America for retrofit installations, parts and service.





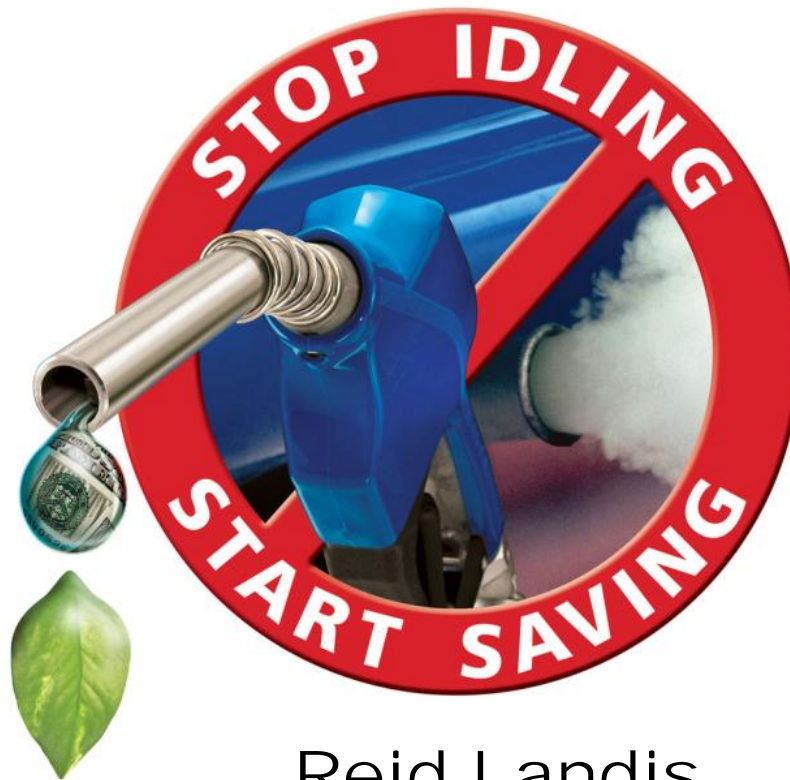
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Off-Highway Industry Demands Reliability and Assurances In Extreme Conditions

- Excellent choice for heating the largest of engines (over 17-liters) in the extreme climates.
- Produces up to 80,000/104,000/120,000 Btu/h heat output.
- Offered with and without enclosure box.
- Variable Temperature Control.





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